REMARKS

Office Action

The objections to the oath and Information Disclosure Statement, and the objection to claim 63, have been withdrawn. The language "a group of the formula" in claim 68 has been objected to. Claims 47 and 49-78 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly lacking enablement. Reconsideration of the objection and rejection is requested.

Amendments to the Claims

Claims 47 and 63 have been amended to replace the terms "preventing" and "treating," respectively, with "inhibiting," support for which can be found, e.g., from p. 57, line 22, to p. 58, line 6; from p. 60, line 10, to p. 61, line 9; from p. 77, line 1, to p. 82, line 2 (see, e.g., the inhibition data); and from p. 13, line 24, to p. 15, line 17, of the specification. Claims 47, 51-53, 60-66 and 68 have been amended for clarity. Specifically, claims 47, 51-53, 60-66 and 68 have been amended to replace the term "said" with "the," and claims 47, 63 and 68 have been amended to delete "a group."

New claims 79 and 80 have been added to recite particular embodiments of the present invention. New claim 79 recites a particular embodiment for "A," support for which can be found e.g., at p. 45, lines 1-4, and Fig. 4 of the specification. New claim 80 recites particular protease mutations, support for which can be found, e.g., at p. 84, lines 1-20, of the specification.

The foregoing amendments are fully supported by the specification. No new matter has been added.

Discussion of the Office Action

Claim 68 has been objected to because the language "a group of the formula" refers to a single formula and not a group of formulae. However, the term "group" in claim 68 (and claims 47 and 63) refers to a structural appendage, e.g., functional group, radical, substituent, and the like. Thus, it is believed that the language "a group of the formula" is being used in the proper context. Nevertheless, in an effort to advance the prosecution of the present application, the language "a group" in claim 68 (and also in claims 47 and 63) has been deleted so that the introductory phrase reads "A is of the formula," thereby rendering moot the objection to claim 68.

With regard to the enablement rejection, the Office Action (p. 6) states: "The issue at hand is that Applicant has not provided any convincing evidence that the administration of a compound denoted as Formula I prevents the development of drug resistance and treats mutant retroviral infection." In support of the rejection, the Office Action refers to statements made in the Declaration Under 37 C.F.R. § 1.132 of Dr. Hiroaki Mitsuya, which accompanied Applicants' response of May 4, 2004 ("Mitsuya Declaration"). In particular, the Office Action (p. 6) alleges that Dr. Mitsuya's statements are "conclusory" and "not based on any findings that commensurate [sic] with the scope of the claimed invention." The Office Action further alleges that Dr. Mitsuya's use of the word "should" indicates that Applicants have not shown that administering a compound of Formula I prevents the development of resistance or treats mutant retroviral infections.

Contrary to the Office Action, the statements made by Dr. Mitsuya are supported by actual clinical data, which demonstrates unequivocally that administering a compound of Formula I *in fact* treats mutant retroviral infections. See, e.g., the Mitsuya Declaration at paragraph 10, and the supporting data (attached thereto). The Office's interpretation of the word "should" as allegedly lacking such a showing completely ignores the fact that Applicants have made such a showing. As such, the statements made by Dr. Mitsuya (a preeminent virologist who has actually worked with the recited compounds) cannot be disregarded as "conclusory."

Further, as emphasized in Applicants' response of May 4, 2004, the claimed methods do not necessarily require absolute preclusion. Nevertheless, the Office Action (p. 5) argues: "Applicant's assertion is not found persuasive. Nowhere in the instantly recited claim is there any indication that the instantly claimed invention does not require absolute preclusion of resistance or mutant retroviral infection."

On September 30 2004, Applicants' attorneys, Kenneth P. Spina and Victor L. Song, called Examiner Emily Le to discuss the possibility of scheduling an interview to address the Office Action. Also discussed as a potential topic for the interview was the possibility of amending the claims to replace "preventing" and "treating" with "inhibiting." On October 7, 2004, per Examiner Le's instructions, the undersigned attorney placed a follow up call to Examiner Le to schedule a date for the interview. In that follow up discussion, however, Examiner Le recommended filing an amendment to replace "preventing" and "treating" with "inhibiting," as discussed previously, in lieu of the interview.

Although Applicants disagree with the enablement rejection, claims 47 and 63 have been amended to replace the terms "preventing" and "treating" with "inhibiting," as recommended by the Examiner. The amendments, which serve to further clarify that the

claimed methods do not require absolute preclusion, are believed to render moot the enablement rejection. The amendments have been made in an effort to advance the prosecution of the present application and not in acquiescence of the enablement rejection.

Applicants again emphasize that the specification is fully enabling with respect to the claimed methods. The specification teaches how to prepare, isolate, characterize and biologically test the recited compounds. See the specification, e.g., from p. 12, line 2, to p. 33, line 18; from p. 33, line 19, to p. 50, line 17; from p. 61, line 10, to p. 73, line 25; from p. 74, line 1, to p. 76, line 16; and Figs. 1-4, 3A, 3B, 5A-5D. The specification also teaches how to formulate and therapeutically administer the recited compounds. See the specification, e.g., from p. 50, line 18, to p. 56, line 31; and from p. 57, line 1, to p. 60, line 9.

The specification further provides data, which demonstrate the biological efficacy of the recited compounds against multi-drug resistant retroviral infection. See the specification, e.g., from p. 76, line 18, to p. 79, line 22; p. 82, lines 4-23; and from p. 84, line 1, to p. 93, line 20. The specification even provides data demonstrating that high potency can be maintained even in the presence of excessive amounts of human binding proteins, which are believed to adversely impact *in vivo* efficacy. See the specification, e.g., at p. 83, lines 5-27. The Mitsuya Declaration further highlights the effectiveness of the recited compounds for practicing the claimed methods, as discussed above.

The fact that experimentation may be complex does not necessarily make it undue, if the art typically engages in such experimentation. *See* MPEP § 2164.01. Indeed, the Office Action (p. 5) positively acknowledges and agrees with this assertion. The test of enablement is not whether any experimentation is necessary, but whether, if experimentation is necessary, it is undue. *Id.* The present specification makes it abundantly clear that any experimentation that may be needed for practicing the claimed methods is the type that the art routinely engages in, and is not undue. See the specification, e.g., at p. 59, lines 7-17, which states:

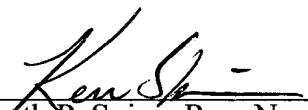
> One skilled in the art will recognize that the specific dosage level for any particular patient will depend upon a variety of factors including, for example, the activity of the specific compound employed, the age, body weight, general health, sex, diet, time of administration, route of administration, rate of excretion, drug combination, CD4 count, the potency of the active compound with respect to the particular mutant retroviral strain to be inhibited, and the severity of the symptoms presented prior to or during the course of therapy.

As such, the specification is fully enabling with respect to the claimed methods. In view of the foregoing, Applicants respectfully request withdrawal of the claim objection and the enablement rejection.

Conclusion

The application is considered to be in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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